

CLAIMS

1. A rare earth transition metal (RE-TM) alloy structure comprising a RE-TM alloy substrate and a noble metal diffusion barrier disposed thereon, therein the RE-TM alloy is a magnetic alloy in which the rare earth element is samarium and the noble metal diffusion barrier comprises platinum metal.
2. A structure according to claim 1, wherein the RE-TM alloy is a Sm-Co-Cu-Fe-Zr magnetic alloy.
3. A structure according to claim 1 or claim 2, wherein the noble metal layer is in direct contact with the alloy substrate on one side, the opposite side being exposed to the exterior environment.
4. A structure according to any preceding claim, which is a permanent magnet article.
5. A permanent magnet article of claim 4 which is an aerospace component.
6. A method of forming a structure according to any preceding claim, wherein the noble metal diffusion barrier is formed by electroplating.
7. A method of reducing rare earth metal depletion at the surface of a RE-TM permanent magnet, which method comprises providing over the surface a noble metal diffusion barrier.
8. A method according to claim 7, wherein the RE-TM permanent magnet is a SM-TM high temperature permanent magnet.